Does Training Trappers Improve Wolf Trapping Success?

Results of the Community-Based Wolf Trapping Initiative

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Results of the Community-Based Wolf Trapping Initiative

Summary

Between 1998 and 2007, Environment Yukon trained and supported 126 local trappers to be more effective harvesters of wolves.

The Community-Based Wolf Trapping Initiative was designed to evaluate how skill development through trapper training could increase trapper skill levels and affect overall wolf harvest.

The objective was to see if increasing trappers' wolf-snaring skills could raise wolf harvest levels to the point where local trappers could manage wolf numbers.

While overall wolf harvest numbers went up in the past decade, most of these wolves were taken by only a handful of trappers.

While training trappers led to an overall increase in snare use, only a handful of trappers (not all of them trained) increased their wolf harvest.

As a result of this study we found:

Training did not lead to more trapping. Only half (62) of the 126 participants caught wolves either before or after training.

The ability of trappers to increase wolf harvest is not just based on skills. Over half of all harvested wolves were taken by 32 trappers, not all of whom had taken training.

Wolf harvest increased for a few individuals who trained. Their increased skill levels complemented their strong interest in trapping wolves and their ready access to traplines.

Based on our findings, we concluded that training does not lead to a substantial increase in wolf harvest.

Our findings raise doubts that increased training will enable the trapped wolf harvest to be increased to a level where it can be used as an effective method for managing wolf numbers.

Why train trappers?

In Yukon, humans and wolves both rely on the same animals, primarily caribou and moose, for their food. Historically, First Nation people would take pups from wolf dens as a way of limiting their numbers and reducing competition.

Over the last century, local people trapped and hunted wolves at about the same level as we see today. Between 1920 and 1960, governments conducted several wolf poisoning programs to help increase local game, but these programs were unpopular with the public as many other animals were also poisoned, and so were discontinued.

Beginning again in the 1980s, government began shooting wolves from helicopters, which proved to be an effective way of reducing wolf numbers in areas where caribou or moose numbers were low.

However, shooting wolves from aircraft was a controversial management approach. In 1992, the Yukon government tasked a group of citizens representing a wide range of interests to develop a Yukon Wolf Conservation and Management Plan. The plan laid out a framework for how wolf management – and future wolf control projects – should be carried out in the territory.

One of the recommendations of the plan was to look at the effectiveness of traditional means, including denning and trapping, as a way of managing wolf numbers. Alaskan trappers had developed new snaring methods for wolves in the 1980s and it was thought that Yukon trappers could target wolves in the same way if they learned the new snaring skills.

Yukon Wolf Conservation and Management Plan (1992)

During the late 1980s, it was acknowledged that wildlife management had historically been carried out mainly as a reaction to problems and that a more proactive approach was needed.

The Yukon Wolf Conservation and Management Plan (1992) outlines ways to address a variety of concerns and issues related to the management of wolves in the territory. These include:

- Ensuring wolves continue to exist in Yukon in healthy numbers.
- Recognizing the nonconsumptive value of wolves.
- Showing greater respect for wolves through their consumptive use (hunting and trapping
- Recognizing and identifying special conditions where wolf numbers can be controlled to help moose, caribou and sheep populations to increase.

Brief history of wolf trapping and snaring

Prehistory	1500s	Late 1800s	1920s	Today
Snares used made of natural materials	Steel traps invented Main device for next three centuries	Snares made of copper and brass wire Not as effective as traps	Double-twist snare with sliding lock invented Not widely used until 1970s	Snare use continues to increase as more reliable and sensitive locks and cable are developed. The search for more humane snares is ongoing. A number of snare designs are being developed that promise more humane standards than those currently in use.

The Community-Based Wolf Trapping Initiative

The Community-Based Wolf Trapping Initiative began in 1998. Over the next 10 years, 126 trappers took part in the program designed to increase their wolf-snaring skills. Yukon government biologists explained the biology of wolves and why, to be more successful, trappers had to move away from the use of traditional leghold traps and explore the use of groups of locking neck snares to take more than 1 wolf in a set.

Active trappers who were interested in improving their wolf-snaring skills were invited to participate in the program. Initially, most participants were identified by local conservation officers or regional biologists. By working with these individuals it was thought there would be a greater possibility of an immediate and visible increase in wolf trapping success.

The hope was that the wider trapping community would hear about the trainees' success and that their demonstrated results would increase the credibility of the techniques and skills, which would then encourage untrained trappers to try the techniques. In addition, having skilled wolf trappers in the communities would also allow them to become local instructors.

Trapping Definitions

Registered Trapline Concession (RTC): A parcel of land on which the holder is given exclusive rights to harvest furbearing animals. There are 351 RTCs in Yukon of which 18 are group areas held either by a number of family or First Nation members.

Registered Trapline Concession Holders: Trappers who have been granted the exclusive right to harvest fur on the RTC to which they are registered. The right of tenure for a given individual on a trapping concession is 5 years. The RTC may be reviewed for use after each 5-year period and, if no fur has been harvested, it could be re-issued to a new concession holder subject to review by a regional renewable resources council and Yukon government.

Assistant Trappers: Trappers who are only allowed to trap if they have been given explicit written permission from the concession holder. The assistant trapper's right to trap on any given trapline can be revoked at the discretion of the RTC holder.

What trappers learned

Between 1998 and 2007, 21 workshops were held in 13 communities with some additional field visits and support. The training program usually ran one and a half days. Participants learned about wolf behaviour and why the animals are difficult to trap using standard methods. They were shown the proper techniques for building and cleaning snares and usually had a hands-on session of setting their own snares. In some cases, the instructors also took the participants out on a trapline to demonstrate how to set up a snare site and to give advice on where and how to set up other sites. At the end of the workshop, participants were given snares and snare-making materials to keep.

Our analysis

In Yukon, all harvested wolf pelts are required by law to have a government-issued Fur Sealing Certificate (FSC) before they can be legally transferred or sold. According to FSC records, we know 1,572 wolves were harvested by Yukon trappers between 1988 and 2007.

To understand if the trapper training was leading to greater wolf harvest success, we carefully tracked the harvest records of the trappers who took the course to see if there was a difference in the number of wolves they harvested before and after training. We also compared the results of these trappers to those who did not take the additional training.

Trapping wolves: What to think about

Stay clean and invisible: Wolves have a very keen sense of smell and are very intelligent. Everything you use –from the snares themselves to your gloves and clothes – needs to be extremely clean. You cannot hide scent from a determined wolf nose, but you can minimize the information you are providing. Keep your track signs to a minimum as well, as wolves will focus attention on it – and put their noses to work.

Cast a net: Instead of trying to attract a wolf to a specific spot to be trapped, like with a leghold trap, you need to set a number of snares around a distraction (like a ribbon across their trail). The snares act like a net that will catch the wolves as they move away in different directions.

Numbers: Wolves are pack animals and to be effective, the idea is to catch as many animals from the pack as you can. Because you are trying to catch several animals at once, you need to have lots of snares set up in the same area. Trappers also have to be prepared to handle several carcasses at once if their snares are successful.

What we found out

1. Skill level was not a major factor limiting wolf harvest.

Out of 375 wolves taken by workshop trappers after training over half were taken by only 9 individuals.

The trapping history and skill levels of the participants were varied. Some only trapped after the workshops, some only before, and some trapped both before and after training (Table 1). Analysis of the FSC records shows the contribution to the wolf harvest is not spread evenly among the 62 individuals who caught wolves between 1988 and 2007. Of the 55 participants who trapped before and after training, only 15 took more wolves after training than in the 10 years before training. Furthermore, of the 375 wolves taken by workshop trappers after training, over half were taken by only 9 individuals (Appendix 1).

Table 1. Trapping activity and wolf harvest of 126 workshop participants.

	Number of workshop participants	Number of workshop participants who caught wolves	Number of wolves taken before training	Number of wolves taken after training
Active before and after training	55	46	233	296
Active only after training	14	9	-	79
Active before training but not after	20	7	28	0
Never active	37	-	-	-
Total	**126**	**62**	**261**	**375**

2. Expert assistance helped increase harvest, but only in select cases

Of the 248 wolves taken by trappers who had field assistance over half were taken by 7 individuals.

Thirty-one participants were assisted with onsite trapline visits and helped with establishing active snare sites (Table 2). These field visits included identifying further potential setups and sites while discussing techniques and skills that would increase effectiveness. Trappers who had field assistance harvested almost twice as many wolves compared to those who did not have field support. Of the 248 wolves taken by trappers who had field assistance, over half were taken by 7 individuals. Among trained trappers who did not have field assistance, over half of the 127 wolves harvested were taken by 3 individuals (Appendix 1).

Table 2. Number of wolves taken by workshop participants before and after training.

Workshop	Number of participants	Number of wolves trapped		
		Before training	After training	Total
With field help	31	94	248	342
Without field help	31	167	127	294

3. A few trappers, both trained and untrained, increased their annual average wolf harvest.

Trapper experience appears to not be a factor in wolf-trapping success

Only 32 trappers were responsible for over half of the 1,572 wolves taken between 1988 and 2007 (Appendix 2). From this group, 18 were trained and 14 were untrained. Within this group of 32, 10 trappers were responsible for a quarter of all wolves trapped between 1988 and

2007. Only 27 trappers took more than 2 wolves a year on average (Appendix 3). Although it appears from the data (Table 3) that the years of trapping experience has a strong relationship with average annual harvest of wolves, it does not speak to the fact that interest in wolf trapping must be of equal or greater importance than wolf harvest experience because trappers with only 1 or 2 years of experience can be more successful than long-time trappers. This can only be attributed to the combination of interest and skill.

Table 3. Wolf-trapping success of trappers with different levels of experience, 1998 – 2007.

Trapper experience	Total number of trappers	Number of trappers who took wolves	Total number of wolves taken	Average annual wolf harvest for all trappers	Average annual wolf harvest for trained trappers	Average annual wolf harvest of the "Top 4" trappers
Newcomer (1–2 yrs)	412	85	176	0.2	1.0	7.5
Experienced (3–10 yrs)	280	156	688	0.3	0.6	4.3
Veteran (11–20 yrs)	46	45	708	1.5	1.6	4.0
Total			**1572**			

4. Interest in wolf trapping appears to be a factor in wolf-trapping success.

Interested and dedicated trappers both trained and untrained harvested most of the wolves.

To assess the effects of trapper training, we compared the number of wolves taken in the 10 years before and 10 years after trapper training workshops began in 1998 (Table 4). The number of wolves taken by trappers from 1998 to 2007 was almost double the number taken from 1988 to 1997. And although the total number of active trappers went down, the number of successful wolf trappers stayed about the same.

In the 10 years after trapper training workshops began, half of the 993 wolves were taken by only 26 individuals, or 13% of the 199 successful wolf trappers. This was no different than in the 10 years before the workshops began, when half of the 579 wolves were taken by only 29 trappers, or 15% of the 188 successful wolf trappers. Out of 152 untrained trappers who caught wolves between 1998 and 2007, 21 individuals, or 14% of the successful wolf trappers trapped half (318) of the 632 wolves taken for this group. Out of 47 trained trappers who took wolves, 9 individuals (18% of the successful trained trappers) took over half (192) of the 375 wolves. This shows that there is little difference between the harvest rates of workshop participants and untrained trappers. If lack of skill was the most important factor determining wolf trapping success, then overall, workshop participants should have shown much higher success rates than trappers who had not received training. (Appendix 2 and Appendix 3)

Table 4. Comparison of the number of wolves taken in the 10 years before and 10 years after trapper training workshops began in 1998.

10 years before trapper training (1988 to 1997)	Active trappers	Number of trappers who took wolves	Number of wolves taken
Trappers with no workshop	591	187	565
Trappers after taking workshop	1	*1	14
Totals	**592**	**188**	**579**
10 years after trapper training (1998 to 2007)	**Active trappers**	**Number of trappers who took wolves**	**Number of wolves taken**
Trappers with no workshop	338	152	632
Trappers after taking workshop	69	47	361
Totals	**407**	**199**	**993**

* this trapper took wolves during the Aishihik Program in 1995-1997 with our guidance.

5. Snaring skills and information were successfully exchanged among trappers.

The use of snares to trap wolves doubled in the 10 years after trapper training.

We were able to monitor the methods used to harvest wolves between 1988 and 2007 through FSC data (Table 5). One of the biggest changes that occurred after trapper training began was the increase in the use of snares by both trained and untrained trappers. This indicates that the skills and techniques we taught were probably passed on to untrained trappers by word of mouth, which was one of the intentions of this project. According to the data, both trained and untrained trappers increased their wolf harvest substantially by using snares.

However, the increased wolf harvest was still attributed to a small number of individuals who trap every year. The increase in snaring success by untrained trappers in the 10 years after trapper training began indicates snaring techniques have been adopted by the wolf trapping community at large and that most trappers interested in trapping wolves have some knowledge of the skills and techniques we demonstrated.

The snaring skills required to increase harvest are available within the trapping community and have been successfully shared with interested untrained trappers. However, even with this skill transfer only a few individuals trap most of the wolves. This means that factors other than limited skills are probably responsible for the continued low wolf harvest of many Yukon trappers.

Table 5. Comparison of wolf harvest methods in the 10 years before and 10 years after trapper training workshops began in 1998.

	10 years before trapper training (1988 to 1997)				10 years after trapper training (1998 to 2007)			
	Untrained	Trained*	Total	Percent	Untrained	Trained	Total	Percent
Snare	129	94	223	38%	338	385	723	76%
Leghold	155	26	181	31%	69	37	106	11%
Shot	93	24	117	20%	73	47	120	13%
Other/ unknown	53	5	58	10%	26	18	44	5%

**Indicates those trappers who went on to take training 1998-2007*

Challenges to using trapping as a method for managing wolf populations

The question originally posed in the 1992 Wolf Conservation and Management Plan was whether community-based trapping could be used to effectively manage wolf populations. Based on our analysis, successful trappers need wolf-trapping skills, interest in harvesting wolves, and access to wolves. The following are some of the challenges we have identified, based on this and other research done in Yukon on wolves and trapping.

Trapping wolves is hard work

According to the FSC numbers, the overall annual wolf harvest average is less than 1 wolf per trapper or trapline. Part of the reason for this is that trapping wolves is hard, both physically and mentally. Here are some of the reasons why:

- Wolves are very intelligent, cautious and fearful of new things. Evidence of recent human activity such as odours, trampled snow, or broken branches will often compromise a snare site, especially for wolves that have experience with trappers.
- Even if a snare site is set up perfectly, wolves may not pass by. Wolves travel long distances and may only come through the trapline area a few times each winter.
- If a single wolf is caught in the first visit, that site may become compromised for further catches as the pack will begin to avoid the site
- Wolves are large animals. It is difficult to transport frozen carcasses and each wolf takes more than 8 hours of work to be ready for market

Training people doesn't guarantee more wolves will be taken

As we found out from the FSC numbers, training does not guarantee that trappers will go out and trap more wolves. According to our numbers, 20 trappers who had been active before training did not catch any wolves after training and 37 trainees did not trap at all.

Only a very few trappers take most of the wolves

Because only a few trappers are actively and successfully targeting wolves, only a few wolf populations near these individuals' traplines are being targeted. This means that targeted wolf management in other areas would be very difficult.

Access to traplines is limited

At present, only a few trappers have all of the required elements of skill in wolf trapping, intent to harvest wolves, and access to wolves. Skilled trappers intent on harvesting wolves have limited ability to access traplines beyond their own area or, in the case of assistant trappers, permission to trap on a specific trapline may not be available every year. Trapline access should be considered as a key issue in any plan to develop trapping as a wolf management tool.

Wolf pack territories are often larger than trapline concession areas

Trapping has likely kept the size of some wolf packs smaller than they would be naturally, but only in a few separate traplines. Most wolf pack territories overlap several traplines, which limits their availability to any individual trapper intent on harvest. If trappers wanted to pursue a goal of reducing the size of many packs, they would need access to several adjacent traplines to be effective. With enough access, trappers interested in wolf harvest could establish multi-year sites across areas large enough to affect several packs. In this way, it may be possible to increase harvest to the level where pack numbers could be held below natural levels. However, sustained success in any given area will lower the number of wolves, which increases the effort and expense of trapping these same wolves making it harder to maintain trapper enthusiasm and commitment.

Trapping as an industry has changed in the Yukon

Less than a third of Yukon's 351 traplines are active in any given year and only about half (153) were active in more than 5 of the 20 years of FSC data collection (Appendix 4).

There are many reasons why trapline use is down. A review of the Klondike Soft Gold Program* in 2008 concluded that low financial return is the primary reason why trapper activity and fur production in the territory has declined over the past 20 years. Fur harvest may continue to be a source of income for some, but for others it is the pursuit of lifestyle that has become important. The financial returns may be low in relation to the cost of operations, which limits use of many remote traplines. The need to remain tied into the wage economy restricts many individuals to traplines that are close to home. Easily accessible traplines close to communities are very desirable and their availability is extremely limited, creating a barrier to skilled trappers intent on expanding their harvest of wolves.

**Evaluation of the Klondike Soft Gold Program*. 2008. Wildeor Wildlife Research and Consulting

Conclusions

According to the information we collected, there is a core group of trappers who trap on a regular basis and a few of those active trappers seem to be intent on wolf trapping. We observed that, with training, interested trappers were able to increase their wolf harvest. It also appears that trappers who did not receive training also increased their wolf catch using snares. We suggest that as interested trappers were exposed to or heard of the increased wolf harvest by trappers we worked with, use of this technique increased.

However, as a method to manage wolf numbers, trapping has limitations. The few interested and active wolf trappers have limited or no access to wolf trapping opportunities beyond their own traplines. Even with unlimited access to several traplines the number of interested and committed trappers in any given community may be too low to sustain a large enough wolf harvest for long enough to effectively manage wolf populations

This study showed that training is not the limiting factor to using trapping as a wolf management method. For wolf trapping to become a viable way to control local wolf populations, the following must be in place:

- **A group of trappers from the same area committed to carrying out ongoing (multi-year) wolf snaring on their traplines.** This will require continuous trapping effort throughout each winter.
- **These trappers must have access to a number of traplines** to significantly reduce wolf numbers in a targeted area.

Appendix 1. Wolf harvest records for the 62 training participants who caught wolves during their trapping career. Half of the training participants (31) received field help from the instructor. Note that some of the participants who did not receive field help never trapped after taking the workshops.

Had Field Help			No Field Help		
Wolf harvest before training	**Wolf harvest after training**	**Total**	**Wolf harvest before training**	**Wolf harvest after training**	**Total**
5	34	39	20	46	66
4	22	26	31	0	31
7	18	25	16	11	27
11	12	23	11	12	23
9	13	22	13	1	14
8	12	20	1	11	12
0	19	19	11	1	12
0	18	18	9	1	10
5	12	17	0	9	9
0	15	15	8	1	9
0	13	13	0	8	8
7	4	11	8	0	8
0	10	10	7	0	7
6	4	10	0	6	6
5	4	9	1	5	6
0	8	8	6	0	6
2	6	8	6	0	6
7	0	7	4	1	5
3	3	6	0	4	4
1	4	5	2	2	4
0	4	4	2	1	3
1	3	4	3	0	3
2	2	4	0	2	2
4	0	4	0	2	2
0	3	3	0	2	2
1	2	3	2	0	2
2	1	3	2	0	2
1	1	2	2	0	2
2	0	2	0	1	1
0	1	1	1	0	1
1	0	1	1	0	1
Total 94	**248**	**342**	**167**	**127**	**294**

Appendix 2. Half of all wolves trapped between 1988 and 2007 were taken by 32 individuals.

Trapper Number	Trained	Number of years trapping (1988-2007)	Trapper's total wolf harvest	Trapper's average annual harvest	Cumulative Harvest	% Harvest
1	no	20	100	5.00	100	6%
2	yes	14	66	4.71	166	11%
3	yes	12	39	3.25	205	13%
4	no	13	39	3.00	244	16%
5	yes	10	31	3.10	275	17%
6	yes	4	27	6.75	302	19%
7	no	16	27	1.69	329	21%
8	yes	17	26	1.53	355	23%
9	no	5	25	5.00	380	24%
10	yes	16	25	1.56	405	26%
11	no	15	24	1.60	429	27%
12	no	17	24	1.41	453	29%
13	yes	18	23	1.28	476	30%
14	yes	19	23	1.21	499	32%
15	no	10	22	2.20	521	33%
16	yes	14	22	1.57	543	35%
17	yes	11	20	1.82	563	36%
18	no	14	20	1.43	583	37%
19	yes	6	19	3.17	602	38%
20	no	9	19	2.11	621	40%
21	yes	8	18	2.25	639	41%
22	yes	17	17	1.00	656	42%
23	yes	2	15	7.50	671	43%
24	no	10	15	1.50	686	44%
25	no	19	15	0.79	701	45%
26	yes	9	14	1.56	715	45%
27	no	9	14	1.56	729	46%
28	yes	5	13	2.60	742	47%
29	no	17	13	0.76	755	48%
30	yes	3	12	4.00	767	49%
31	no	6	12	2.00	779	50%
32	yes	12	12	1.00	791	50%

Appendix 3. Cumulative 20-year trapper wolf harvest to the 50% level, sorted by average annual harvest. There are 48 individuals listed; only 27 individuals average more than 2 wolves a year.

Trained	Years of experience to 2007	Average annual harvest	Cumulative harvest	% Harvest
yes	1	9.0	9	1%
yes	1	8.0	17	1%
yes	2	7.5	32	2%
yes	4	6.8	59	4%
yes	1	6.0	65	4%
no	2	5.5	76	5%
no	20	5.0	176	11%
no	5	5.0	201	13%
yes	14	4.7	267	17%
yes	3	4.0	279	18%
no	1	4.0	283	18%
yes	12	3.3	322	20%
yes	6	3.2	341	22%
yes	10	3.1	372	24%
no	13	3.0	411	26%
no	2	3.0	417	27%
no	1	3.0	420	27%
no	1	3.0	423	27%
no	1	3.0	426	27%
yes	5	2.6	439	28%
no	4	2.5	449	29%
no	2	2.5	454	29%
no	2	2.5	459	29%
yes	8	2.3	477	30%
yes	4	2.3	486	31%
no	10	2.2	508	32%
no	9	2.1	527	34%
no	6	2.0	539	34%
yes	3	2.0	545	35%
no	2	2.0	549	35%
no	2	2.0	553	35%
no	2	2.0	557	35%
yes	1	2.0	559	36%
no	1	2.0	561	36%
no	6	1.8	572	36%
yes	11	1.8	592	38%
no	5	1.8	601	38%
no	16	1.7	628	40%
yes	3	1.7	633	40%
no	3	1.7	638	41%
no	15	1.6	662	42%

Appendix 3. Continued

Trained	Years of experience to 2007	Average annual harvest	Cumulative harvest	% Harvest
yes	14	1.6	684	44%
no	7	1.6	695	44%
yes	16	1.6	720	46%
yes	9	1.6	734	47%
no	9	1.6	748	48%
yes	17	1.5	774	49%
no	10	1.5	789	50%

Appendix 4. The total number of seasons each trapline was used and the number of traplines used in each specific trapping season between 1988 and 2007.

Number of seasons trapline was used	Number of traplines recording a FSC species record	Season of trapping activity	Number of traplines active for FSC species
1	44	1988	179
2	54	1989	200
3	29	1990	127
4	29	1991	159
5	20	1992	128
6	21	1993	78
7	23	1994	100
8	19	1995	68
9	16	1996	106
10	19	1997	90
11	12	1998	89
12	14	1999	89
13	7	2000	112
14	7	2001	82
15	6	2002	87
16	4	2003	96
17	3	2004	87
18	2	2005	78
19	3	2006	105
20	7	2007	95